

INTERMOUNTAIN STATES (R-4)<sup>1/</sup>

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CONDITIONS IN BRIEF

The mountain pine beetle and the western spruce budworm remained the two most damaging insects in the Intermountain Region during 1975.

Mountain pine beetle-caused mortality decreased Regionwide, but increased locally in some areas of the Targhee National Forest, Idaho, and the Ashley National Forest, Utah. Regionwide defoliation of Douglas-fir, subalpine fir, grand fir, and Engelmann spruce caused by the western spruce budworm increased significantly in 1975.

The mountain pine beetle attacked and killed practically all species of pine found in the Intermountain Region. Lodgepole pine sustained the heaviest losses in parts of Idaho, Wyoming, and Utah. Scattered ponderosa pine mortality occurred in small areas of Idaho, Utah, and California. Jeffrey pine, whitebark and limber pine losses were widely scattered.

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1/ Includes forested lands in Utah, Nevada, southern Idaho, western Wyoming and eastern California.

1 The Engelmann spruce beetle infestation in central Utah continued its  
2 rapid decline following its peak in 1973. Efforts to salvage the dead  
3 material continued.

4  
5 The Douglas-fir beetle outbreak on the Targhee National Forest, Idaho,  
6 declined while increases occurred on the Boise, Salmon, and Sawtooth  
7 National Forests, Idaho.

8  
9 The western spruce budworm continued to be the most damaging and wide-  
10 spread defoliator during 1975. The extent of budworm defoliation  
11 increased in all areas where damage occurred in 1974, and one new area  
12 was reported. Analysis of egg mass data indicates moderate to heavy  
13 defoliation will continue in most areas in 1976. Other defoliators were  
14 observed but only of local importance.

15  
16 Dwarf mistletoe continues to be the most serious forest disease of the  
17 Intermountain Region. Much emphasis and effort was exerted to reduce  
18 losses to this pathogen. Observations made from a helicopter revealed  
19 that dwarf mistletoe-infested lodgepole pine could be seen from the air.  
20 It was also possible to make an estimate of the quality and quantity of  
21 the regeneration from the air. Vegetation plots, established around two  
22 coal-fired generating stations to assess effects of unrestricted release  
23 of SO<sub>2</sub> were visited and photographed. A number of Fomes annosus  
24 infection centers were located on old timber sales. An infestation of  
25 Cytospora canker in white fir was examined.

Status of Forest Insects

Mountain Pine Beetle, Dendroctonus ponderosae Hopk.

The most damaging infestation of the mountain pine beetle continued on the northern portion of the Targhee National Forest, Idaho. Heaviest tree killing occurred in the Island Park area with the largest increase in new attacks around the base of Sawtell Peak. To the east, in the high-elevation stands in Yellowstone National Park, tree killing decreased as expected. Over the course of this outbreak on the Targhee Forest, upwards of 45 percent of the stand and sixty percent of the merchantable volume has been killed. Efforts are now underway to salvage dead and threatened timber. Salvage sales under contract totaled 52 million bd. ft.

A preventive spray project was conducted in Buffalo Campground, Targhee National Forest, during 1975. Three chemicals were applied to each of the 200 trees to a height of 25 feet. A preliminary examination of the three treatments indicate protection was between 96 and 100 percent effective in preventing mountain pine beetle attacks.

Killing of Jeffrey pine, ponderosa pine, lodgepole pine and limber pine continued in widely scattered areas on the Toiyabe National Forest, California. Heaviest damage occurred south of Lake Tahoe, west of Markleeville and in the East Fork of the Carson River.

1 Except for areas along the Snake River just south of the Yellowstone  
2 boundary and the lower Gros Ventre River, mountain pine beetle activity  
3 is at a very low level in Grand Teton National Park and on the Bridger-  
4 Teton National Forest, Wyoming.

5  
6 Renewed bark beetle activity continued to increase on the Wasatch and  
7 Ashley National Forests, Utah. Heaviest mortality on the Wasatch occurred  
8 in the Bear River drainage on National Forest, BLM, and private lands.  
9 The infestation on the Ashley stimulated an aggressive timber sale  
10 program to utilize threatened timber and retard the progress of this  
11 infestation.

12  
13 Many active mountain pine beetle infestations occurred on the Cassia  
14 Division, Sawtooth National Forest, Idaho. Annual losses appear to  
15 occur at a constant rather than an accelerated annual rate. Industry  
16 plans to increase mill capacity in the area and a proposed sale would  
17 remove at least half of the more susceptible old growth and allow natural  
18 regeneration.

19  
20 Elsewhere, mountain pine beetle continued to cause heavy tree mortality  
21 in both lodgepole and ponderosa pine stands from McCall to Round Valley  
22 on the Payette and Boise National Forests, Idaho. The majority of  
23 these infested stands are on private lands adjacent to the Forest.

Engelmann Spruce Beetle, Dendroctonus rufipennis (Kirby)

The once serious Engelmann spruce beetle outbreak in upper Huntington Canyon, Manti-LaSal National Forest, Utah, has declined to widely scattered tree killing. Heaviest mortality occurred in Lake Canyon, Boulger Canyon and Swens Canyon. Prior to 1974, between 26 and 82 percent of the merchantable volume had been killed, most of which is still sound. Efforts to salvage this timber have continued, but limited mill capacity has seriously delayed progress to date.

A control program using more than 500 Engelmann spruce trap trees was undertaken in the Deer Valley Timber Sale, Dixie National Forest. Data to determine control effectiveness was taken but not yet analyzed. Additional stand data will be taken in coming years to determine the long term effectiveness of the trap trees.

Douglas-fir Beetle, Dendroctonus pseudotsugae Hopk.

The damaging outbreak of the Douglas-fir beetle continued to cause heavy losses throughout much of the northern portion of the Targhee National Forest, Idaho. As predicted in 1974, Douglas-fir mortality decreased slightly in 1975. This represents the first decrease in tree killing since the initial buildup in 1969. Although the infestation has reached its peak and has started to decline, many stands remain that are highly susceptible to bark beetle attack. Heavy tree killing will continue for several years in some areas until the infestation subsides.

1 Scattered but increasing infestations of the Douglas-fir beetle occurred  
2 on the Boise, Salmon, and Sawtooth National Forests, Idaho, and in the  
3 Idaho Primitive Area. On the Boise National Forest, heaviest mortality  
4 occurred in the Boise River drainage between Cottonwood Creek and Queens  
5 River. Several helicopter salvage sales are in progress in these areas.  
6 Douglas-fir beetle activity on the Salmon National Forest, Idaho, was  
7 concentrated on the west division of the Forest mainly in the Panther  
8 Creek drainage including much of Little and Big Deer Creeks, and the  
9 Beaver and Clear Creek drainages. Many of these infestations are located  
10 in inaccessible areas. The largest increase in Douglas-fir beetle-  
11 caused mortality occurred on the northern division of the Sawtooth  
12 National Forest. Highest losses of prime timber occurred within the  
13 South Fork of the Boise River drainage between Featherville and Carrie-  
14 town.

15  
16 Western Pine Beetle, Dendroctonus brevicornis LeC.

17 On the Boise National Forest, Idaho, a western pine beetle outbreak in  
18 heavily overstocked ponderosa pine took a dramatic upturn in 1975. A  
19 large commercial thinning sale is in progress to log infested trees  
20 before beetle flight.

1 Western Spruce Budworm, Choristoneura occidentalis Free.

2 Regionwide western spruce budworm populations have vacillated over a  
3 wide range for the past two decades with a high of over two million  
4 acres infested in 1964. In recent years, defoliation has averaged  
5 approximately 350,000 acres. The 733,000 acres defoliated during 1975  
6 represent a marked increase over 1974 and the largest area infested  
7 since 1966.

8  
9 The Targhee and Bridger-Teton National Forests showed the largest  
10 increase with 1500 acres in 1974 and 36,900 acres in 1975; 18,900 in  
11 1974 and 119,200 acres in 1975 respectively. Areas of heaviest defoliation  
12 were in Pleasant Valley and north of Henry's Lake on the Targhee, and  
13 Willow Creek, Horse Creek, Snow King Mountain and tributaries of the  
14 Greys River on the Bridger-Teton. Egg mass data indicate moderate to  
15 heavy defoliation will continue on both Forests in 1976.

16  
17 The Payette National Forest, Idaho, had the largest infestation with  
18 over 400,000 acres of visible defoliation. Areas of heaviest defoliation  
19 on the Payette were No Business Mountain, Fawn Creek, Willow Creek,  
20 Rapid Creek, Paddy Creek, and Brundage Mountain.

21  
22 Increased areas of defoliation were also recorded on the Boise, Challis  
23 and Salmon National Forests, Idaho. A new 300-acre area of defoliation  
24 was reported on the Caribou National Forest, Idaho.

1 Fall Cankerworm, Alsophila pometaria (Harris)

2 For the second consecutive year moderate to heavy defoliation caused by  
3 the fall cankerworm has been reported in lower Corn Creek, Fishlake  
4 National Forest, Utah. Heaviest defoliation occurred on boxelder and  
5 gambel oak with only light to moderate defoliation on bigtooth maple and  
6 chokecherry. All trees refoliated following larval feeding and no  
7 permanent damage is expected.

8  
9 This insect also caused light to moderate defoliation of boxelder,  
10 bigtooth maple, gambel oak, chokecherry and domestic apple along the  
11 Wasatch Front between Ogden and Salt Lake City, Utah. Defoliation has  
12 created a nuisance for home owners in the area.

13  
14 A Tent Caterpillar, Malacosoma incurvum discoloratum (Neumoegen)

15 As predicted from egg mass data collected in 1974, defoliation of Fremont  
16 cottonwood by this tent caterpillar decreased to a level of little  
17 consequence during 1975 along the Fremont River in Capital Reef National  
18 Park, Utah. Only scattered tents were found on Fremont cottonwood near  
19 the Visitor Center. Elsewhere defoliation was not evident. Negligible  
20 tent caterpillar activity in the Park is expected in 1976.



1 Black Pine-Leaf Scale, Aspidiotus californicus Coleman

2 Heavy defoliation of Jeffrey pine caused by this scale occurred on  
3 private lands near Genoa, Nevada. Initially detected in 1974, defoliation  
4 and other tree damage increased in 1975. Counts of overwinter scales  
5 indicated that defoliation will be heavy to severe in 1976. Some tree  
6 mortality has occurred in the small trees and many branches and terminals  
7 appear to be dead. Chemical control was recommended.

8  
9 Brown Day Moth, Pseudohazis eglanterina (Bdv.)

10 A previously undetected outbreak of the brown day moth was reported in  
11 several locations in eastern Nevada and southern Utah. Scattered areas  
12 of snowberry and serviceberry showed heavy to extreme defoliation in the  
13 Ward and Nokomo Mountains, Humboldt National Forest, Nevada. Light  
14 defoliation was found in several areas on the Dixie National Forest and  
15 in Bryce Canyon National Park, Utah.

16  
17 A Sawfly, Neodiprion fulviceps (Cresson)

18 No tree mortality has occurred after six years of heavy defoliation  
19 caused by this sawfly in a small stand of ponderosa pine in Clear Creek,  
20 Fishlake National Forest, Utah. The progress of the infestation will be  
21 closely followed to record the long term impact on host trees. As of  
22 1974, no apparent decrease in radial growth at d.b.h. had occurred.

1 White Fir Needle Miner, Epinotia meritana Heinrich

2 After several years of moderate to heavy defoliation, white fir in  
3 portions of the Dixie National Forest and Bryce Canyon National Park  
4 showed signs of recuperation during 1974. This respite was followed in  
5 1975 by a dramatic increase in the needle miner population which resulted  
6 in heavy defoliation in many of the already devitalized trees.

7  
8 A Leafroller, Archips negundanus (Dyar)

9 A persistent infestation of this leafroller has caused heavy defoliation  
10 of boxelder throughout most of the rural areas of northern Utah for  
11 eight years. Despite this unusually long outbreak, trees refoliate by  
12 mid-summer and have suffered no apparent damage.

13  
14 Gypsy Moth, Porthetria dispar (L.)

15 As part of a westwide gypsy moth detection effort, in cooperation with  
16 APHIS and the National Park Service, pheromone baited traps were placed  
17 in several locations at Zion and Capital Reef National Parks, Utah.  
18 These areas were selected due to their proximity to major east-west  
19 travel routes, availability of suitable host trees, and the large number  
20 of west bound recreational vehicles. No gypsy moths were found in 1975.

1 Defoliator Complex

2 The sugarpine tortrix, Choristoneura lambertiana (Busck), and the pine  
3 needle sheath miner, Zelleria haimbachi Busck, caused light to moderate  
4 defoliation of lodgepole pine on 15,000 acres on the Targhee National  
5 Forest, Idaho and on 5000 acres on the Bridger-Teton National Forest,  
6 Wyoming. The trend of this infestation is unknown.

7  
8 The sugar pine tortrix damaged a thinned stand of lodgepole pine on  
9 private land near Donnelly, Idaho.

10  
11 Status of Forest Diseases

12 Dwarf Mistletoes, Arceuthobium spp.

13 Dwarf mistletoes were controlled on approximately 930 acres of National  
14 Forest lands in Idaho and Utah. In Idaho, ponderosa pine infested with  
15 A. cryptopodum Engelm, and Douglas-fir infested with A. douglasii Engelm.  
16 were treated. In Utah ponderosa pine infested with A. vaginatum subsp.  
17 cryptopodum Engelm. (Hawks. and Wiens) was treated.

18  
19 Treatment consisted of overstory removal by felling, girdling or logging.  
20 Sanitation-thinning operations were carried out in the regeneration.  
21 These projects were financed by appropriated ID&C funds or by monies  
22 appropriated under Title X of the Public Works and Economic Development  
23 Act.

1 A study was conducted to determine whether dwarf mistletoe infestations  
2 could be seen and judged from a helicopter. A flight over an old lodgepole  
3 pine tiehack area in the Uinta mountains of Utah revealed:

4 1. Dwarf mistletoe infected trees could be seen from the air at  
5 40-50 mph and at an elevation of 50 to 200 feet.

6 2. Size and density of regeneration could be judged.

7 3. An estimate as to whether the overstory contained commercial  
8 volumes could be made.

9  
10 Air pollution

11 Broad-leafed and conifer vegetation around the Navajo Generating Station  
12 at Page, Arizona, and the Huntington Canyon Generating Station south of  
13 Price, Utah, was examined for damage caused by unrestricted release of  
14 SO<sub>2</sub> gas. No damage attributable to the effects of SO<sub>2</sub> upon succulent  
15 foliage could be found. Color photographs of all plant species were  
16 retaken for future reference.

1 Root Diseases

2 Three areas of Fomes annosus (Fr.) Cke. infection were found in central  
3 Idaho. On the Council Ranger District of the Payette National Forest,  
4 Idaho, approximately 15 F. annosus centers were found in one area.  
5 Natural and planted ponderosa pine regeneration were being killed.  
6 Another area of two centers was found on the New Meadows Ranger District  
7 of the Payette National Forest. Planted ponderosa pine were being  
8 killed in these centers. On the Ola Slope Area of the Emmett Ranger  
9 District Boise National Forest, one center was found. Mortality consisted  
10 of sawlog and pole-size ponderosa pine. One infection center was found  
11 on State of Nevada land on the east side of Lake Tahoe. True fir seedlings  
12 and saplings were being killed. All infection centers found were in old  
13 timber sale areas.

14  
15 Cytospora Canker

16 White fir, Abies concolor (Gord. and Glend.) Lindl. on Canaan Mountain  
17 and in the Cabbage Flat area of the Escalante Ranger District, Dixie  
18 National Forest, Utah were found to be severely infested with cankers  
19 caused by a fungus of the genus Cytospora. Top and branch kill are  
20 occurring. Mortality of some smaller trees has occurred. Trees on  
21 approximately 2900 acres are affected. No cause for this outbreak could  
22 be found. Further investigation is planned next summer.